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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/421,585	10/20/1999	ROBERT MILLER	RO999-057	4363

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EXAMINER

OPIE, GEORGE L

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/421,585

Examiner

George L. Opie

Applicant(s)

Miller et al.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ☐ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ☐ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ☐ is/are objected to.
- 8) ☐ Claim(s) ☐ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ☐ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ☐ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) ☐.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 14) ☒ Notice of References Cited (PTO-892)
- 15) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 16) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ☐.
- 17) ☐ Interview Summary (PTO-413) Paper No(s). ☐.
- 18) ☐ Notice of Informal Patent Application (PTO-152)
- 19) ☐ Other:

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DETAILED ACTION

This Office Action is responsive to Amendment A, in which claim 7 was amended.

The Office acknowledges Applicant's inclusion of an electronic copy of the amendment on a 3½inch floppy disk, and the Office would like to thank Applicant for submitting the amendment in electronic form to expedite its processing.

1. Claim Rejections - 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1-26 are rejected under 35 U.S.C. § 102(e) as being anticipated by Moiin (U.S. Patent 6,108,699).

As to claim 1, Moiin teaches an apparatus (distributed computer system, p4 18-47) comprising:

- at least one processor (processors 202A, Id.)
- a memory coupled to the at least one processor (memory 204A, Id.)
- a cluster engine residing in the memory and executed by the at least one processor (cluster membership monitor [CMM] which is a computer process executing within each of nodes 0-5, Id.)
- a job residing in the memory and executed by the at least one processor (applications which execute in any member node of current cluster, p13 24-57) the job including: at least one work thread that performs at least one predefined task (Command reader thread 1008, Id.) and
- a main thread that receives messages from at least one computer system coupled to the apparatus (main thread 1002 ... monitors messages received) that routes appropriate messages from the at least one computer system to the at least one work thread (remote procedure calling, Id.) and that signals to the cluster engine when at least one fault occurs when the at least one

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work thread performs the at least one predefined task (messages which indicate to CMM 220A which of the other nodes are operative, Id.).

As to claim 2, Moiin (p6 12-30) teaches a protocol that includes at least one acknowledge round (each member node of a cluster responds to a reconfiguration message . . . by broadcasting a responding reconfiguration message).

As to claims 3-4, Moiin (p13 24-57) teaches the main thread performs only local processing sans waiting for local resources.

As to claims 5-6, Moiin (p9 51 – p10 7) teaches “[o]n occasion, it is necessary for one or more nodes to leave the cluster” which results in “reconfiguration of the cluster to form a new cluster which does not include any failed nodes.”

As to claim 7, see the discussions of claims 1-2 and 6 supra. The limitations in claim 7 are an amalgamation of the features recited in claims 1-2 and 6. Hence, Moiin’s teachings regarding claims 1-2 and 6 are similarly applied to the corresponding claim 7 limitations.

As to claims 8-14, note the rejections of claims 1-7 above. Claims 8-14 are the same as claims 1-7, except claims 8-14 are method claims and claims 1-7 are apparatus claims.

As to claim 15, see the rejection of claim 6 supra.

As to claim 16, Moiin (p4 18-47) teaches a computer program comprising: at least one work thread that performs at least one predefined task (Command reader thread 1008, p13 24-57) and a main thread that receives messages from a corresponding cluster engine (main thread 1002 ... server for applications which execute in any member node of the current cluster, Id.) that routes appropriate messages from the cluster engine to the at least one work thread (remote procedure calling for CMM 220A) and that signals to the cluster engine when at least one fault occurs when the at least one work thread performs the at least one predefined task (messages which indicate to CMM 220A which of the other nodes are operative, Id.).

As to claims 17-18, Moiin (p4 50-57) teaches “computer memory” limitations that meet the recited program product storage for providing and facilitating the software mechanisms.

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As to claims 19-23, note the rejections of claims 2-6 above. Claims 19-23 are the same as claims 2-6, except claims 19-23 are computer program product claims and claims 2-6 are apparatus claims.

As to claim 24, note the rejection of claim 1 above. Claim 24 is the same as claim 1, except claim 24 is a computer program product claim and claim 1 is an apparatus claim.

As to claims 25-26, note the rejections of claims 17-18 supra.

3. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure. Each reference disclosed below has remarkable relevancy to the Applicant's claimed invention.

U.S. Patent No. 5,787,249 to Badovinat et al. which teaches the communications for controlling computing cluster associations.

4. Response to Applicant's Arguments:

Applicant argues (claims 1-26) that Moiin's teachings do not read-on the process signaling for computing cluster management as claimed. Contrary to Applicant's contention, the Moiin reference does teach the recited acknowledge signaling for cluster membership maintenance. Moiin plainly describes the group-update messaging for determining operational network nodes to be included in a clustered distributive system. The prior art of Moiin clearly discloses a cluster management monitor (CMM) equivalent in functionality to the claimed limitations. The reference details the CMM in a multithreaded environment, p13 24-55 with a main thread and other associated threads for handling the cluster-communications governing membership while also performing the requisite program processing.

The scope of the claimed "acknowledge" signal processing clearly transcends the more narrow scope that Applicant attempts to impute through argument. Claimed subject matter, not the specification is the measure of the invention. Limitations in the specification cannot be read into the claims for the purpose of avoiding the prior art, *In re Self*, 213 USPQ 1,5 (CCPA 1982); *In re Priest*, 199 USPQ 11, 15 (CCPA 1978). The claimed cluster configuring elements are clearly subject to a broad interpretation, as detailed in the rejections maintained above. The Examiner has a *duty* and *responsibility* to the public and to Applicant to interpret the claims as *broadly as reasonably possible* during prosecution (see *In re Prater*, 56 CCPA 1381, 415F.2d 1393, 162 USPQ 541 (1969)).

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In considering the network messaging and cluster management recitations, it is noted that Applicant uses terminology that has broad meaning in the art, and thus requires a broad interpretation of the claims in determining patentability of the disclosed invention. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant should set forth claims in language that clearly, distinctly, unambiguously and uniquely define the invention. The fact that Applicant has not narrowed the definition/scope of the current claims implies that Applicant intends an extensive coverage breadth of the claims, which is met by the cited prior art. Consequently, the teachings of Moiin do read-on the cluster control using multithreaded systems to process membership messages, as presented in the pending claims.

Applicant's arguments, filed 17 December 2003, have been fully considered but they are not deemed to be persuasive. For the reasons detailed above, the rejections set forth in the previous Office Action are maintained.

The Office acknowledges Applicant's inclusion of an electronic copy of the amendment on a 3½ inch floppy disk, and the Office would like to thank Applicant for submitting the amendment in electronic form to expedite its processing.

5. THIS ACTION IS MADE FINAL.

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

6. Request for copy of Applicant's response on floppy disk:

Please help expedite the prosecution of this application by including, along with your amendment response in paper form, an electronic file copy in WordPerfect, Microsoft Word, or in ASCII text format on a 3½ inch IBM format floppy disk.

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Please include all pending claims along with your responsive remarks. Only the paper copy will be entered -- your floppy disk file will be considered a duplicate copy. Signatures are not required on the disk copy. The floppy disk copy is not mandatory; however, it will help expedite the processing of your application. Your cooperation is appreciated.

7. Contact Information:

PTO Policy for Facsimile Submissions:

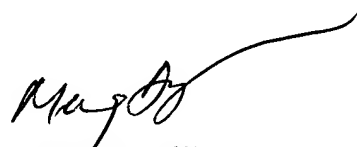
- ☐ AFTER-FINAL faxes must be signed and sent to (703) 746-7238.
- ☐ OFFICIAL faxes must be signed and sent to (703) 746-7239.
- ☐ NON OFFICIAL faxes should be sent to (703) 746-7240.

- ☐ All responses sent by U.S. Mail should be mailed to:
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

- ☐ Hand-delivered responses should be brought to Crystal Park Two, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist). All hand-delivered responses will be handled and entered by the docketing personnel. Please do not hand deliver responses directly to the Examiner.

- ☐ Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist at **(703) 305-9600**.

- ☐ Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Opie at (703) 308-9120 or via e-mail at *George.Opie@uspto.gov*. Internet e-mail should not be used where sensitive data will be exchanged or where there exists a possibility that sensitive data could be identified unless there is an express waiver of the confidentiality requirements under 35 U.S.C. 122 by the Applicant. Sensitive data includes confidential information related to patent applications.



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